In the Claims

Please cancel claims 16, 18 and 22-29, and amend claims 15, 17 and 19 as shown.

1-7. (cancelled)

Sub C1 B1

8. (previously amended) A method, comprising:

using a conversion table to translate a first address from a graphics controller to a second address to a memory; and

using the conversion table to translate a third address from a bus controller to a fourth address to the memory;

wherein the second address has a greater number of bits than the first address and the fourth address has a greater number of bits than the third address .

9. (previously amended) The method of claim 8, wherein said using the conversion table to translate the third address includes using a translation lookaside buffer.

10-11. (cancelled)

12. (previously amended) The method of claim 8, wherein said using the conversion table to translate the third address includes:

comparing a first portion of the third address with entries in a first table;

B1 Cont'd.

if the first portion matches a particular one of the entries in the first table, combining a value associated with the particular one with a second portion of the third address to form the fourth address.

13. (previously amended) The method of claim 12, further comprising:
if the first portion does not match any of the entries in the first table, referring to a second table to translate the third address.

14. (previously amended) The method of claim 13, wherein:
said comparing includes comparing the first portion of the third address with entries in the first table in an input-output controller; and
said referring to the second table includes referring to the second table in main memory.

15. (currently amended) An apparatus, comprising:
a translation lookaside buffer coupled to an input register and an output register;
control logic coupled to the translation lookaside buffer, the input register, and the output register;
wherein the control logic is to compare a first portion of an initial address from a bus controller in the input register with entries in the translation lookaside buffer; and if a matching entry is found, to combine a first value associated with the matching entry with a second portion of the initial address to form a first translated address having a greater number of bits

Bl Cont'd.

than the initial address and hold the first translated address in the output register;

wherein the control logic is further to access a table in memory if the matching entry is not found, find a second value in the table associated with the first portion, combine the second value with the second portion to form a second translated address having a greater number of bits than the initial address, and hold the second translated address in the output register ~~first value has a greater number of bits than the first portion~~ .

16. (cancelled)

17. (currently amended) The apparatus of claim ~~16~~ 15, wherein:

the control logic includes logic for first and second control flows;

the second control flow is to translate an initial graphics controller address and does not access the second table; and

the first control flow is to translate an initial bus controller address and access the second table.

18. (cancelled) .

19. (currently amended) A system, including:

a processor;

a memory;

B/ cont'e

a graphics controller;

a bus controller;

an input-output controller coupled to the processor, memory, graphics controller and bus controller, the input-output controller including :

a translation lookaside buffer coupled to an input register and an output register;

control logic coupled to the translation lookaside buffer, the input register, and the output register;

wherein the control logic is to compare a first portion of a first initial address from the bus controller in the input register with entries in the translation lookaside buffer; and if a first matching entry is found, to combine a first value associated with the first matching entry with a second portion of the first initial address to form a first translated address having more bits than the first initial address and hold the first translated address in the output register;

wherein the control logic is further to compare a first portion of a second initial address from the graphics controller in the input register with the entries in the translation lookaside buffer; and if a second matching entry is found, to combine a second value associated with the second matching entry with a second portion of the second initial address to form a second translated address having more bits than the second initial address and hold the second translated address in the output register.

B1 Cont'd

20. (previously amended) The system of claim 19, wherein the control logic is further to:

access a table in memory if the first matching entry is not found;

find a third value in the table associated with the first portion of the first initial address;

combine the third value with the second portion of the first initial adress to form a third translated address; and

hold the third translated address in the output register.

21. (previously amended) The system of claim 20, wherein:

the control logic includes logic for first and second control flows;

the second control flow is to translate an initial graphics controller address and does not access the table; and

the first control flow is to translate an initial bus controller address and access the table.

22-29. (cancelled)

30. (previously added) An apparatus comprising:

an address translator having a first interface to couple to a memory controller, a second interface to couple to a graphics controller, a third interface to couple to a bus controller, and a table of entries, each entry having a first portion and a second portion;